

What is claimed is:

1. An apparatus for verifying proper operation of an optical inspection machine, comprising:

a row of colored segments that simulate reagent pads containing known types of analytes at known concentrations, wherein the row of colored segments are positioned so that segments can be illuminated by the readhead of the optical inspection machine.

2. An apparatus as defined in claim 1, further comprising offset parallel rows of indicators extending from ends of the row of colored segments.

3. An apparatus as defined in claim 2, wherein the indicators comprise bosses having flat top surfaces.

4. An apparatus as defined in claim 2, wherein the indicators are colored black.

5. An apparatus as defined in claim 2, wherein the indicators are square.

6. An apparatus as defined in claim 2, wherein the indicators are used to confirm that an optical train of an optical inspection machine is properly aligned.

7. An apparatus as defined in claim 1, wherein the row of colored segments are provided on an insert secured to a housing.

8. An apparatus as defined in claim 7, wherein the insert is secured within the housing and the housing includes a window for allowing the insert to be illuminated by the readhead of the optical inspection machine.

9. An apparatus as defined in claim 7, wherein the insert is made from paper.

10. An apparatus as defined in claim 9, wherein the colored segments are printed ink.

11. An apparatus as defined in claim 1, wherein the colored segments include non-white colored segments separated by white segments.

12. An apparatus as defined in claim 11, wherein the non-white colored segments include colored stripes used to confirm that colored stripe detection and amplitude accuracy of an optical inspection machine is correct.

13. An apparatus as defined in claim 11, wherein the non-white colored segments include orange, green and aqua colored bands used to confirm that a LED characterization of an optical inspection machine is correct.

14. An apparatus as defined in claim 11, wherein the non-white colored segments include gray bands of varying intensities used to confirm that a detector linearity of an optical inspection machine is correct.

15. An apparatus as defined in claim 7, wherein the housing includes orientation features that mate with orientation features of a tray assembly for guiding the apparatus into the optical inspection machine, so that the apparatus can be correctly oriented in the tray assembly.

16. An apparatus as defined in claim 15, wherein the orientation features include different sized indents positioned to receive corresponding different sized bosses of the tray assembly when the apparatus is correctly oriented in the tray assembly.

17. An apparatus as defined in claim 1, further comprising a tray assembly including a support tray for insertion into an optical inspection machine and an insert that fits into the support tray, and wherein the insert has a surface contoured to receive the verification apparatus.

18. A system including the apparatus and tray assembly of claim 17, and further including an optical inspection machine comprising:

an opening into which the tray assembly and the apparatus are retracted;

an inspection location within the opening for receiving the apparatus;

a light source for illuminating the apparatus when the apparatus is received in the inspection location; and

a detector for receiving light reflected off the apparatus from the light source.

19. A system including the apparatus of claim 1, and further including an optical inspection machine comprising:

an opening into which the apparatus is retracted;

an inspection location within the opening for receiving the apparatus;

a light source for illuminating the apparatus when the apparatus is received in the inspection location; and

a detector for receiving light reflected off the apparatus from the light source.

20. A system as defined in claim 19, wherein the light source comprises LEDs providing different wavelengths.

21. A method for verifying proper operation of an optical inspection machine, comprising:

inserting an apparatus having a row of colored segments that simulate reagent pads containing known types of analytes at known concentrations into the optical inspection machine so that the row of colored segments can be illuminated by the readhead of the optical inspection machine;

operating the optical inspection machine; and

comparing the results provided by the optical inspection machine to the known types and concentrations of analytes simulated by the row of colored segments.

22. A method as defined in claim 21, further comprising positioning offset parallel rows of indicators on the apparatus so that the indicators extend from opposite ends of the row of colored segments, and using the indicators to confirm that an optical train of the optical inspection machine is properly aligned.

23. A method as defined in claim 21, wherein the row of colored segments are provided on an insert secured to the apparatus, wherein the insert is made from paper and the colored segments are printed ink.

24. A method as defined in claim 21, wherein the colored segments include non-white colored segments separated by white segments.

25. A method as defined in claim 24, wherein the non-white colored segments include colored stripes used to confirm that colored stripe detection and amplitude accuracy of the optical inspection machine is correct.

26. A method as defined in claim 24, wherein the non-white colored segments include orange, green and aqua colored bands that are used to confirm that a LED characterization of the optical inspection machine is correct.

27. A method as defined in claim 24, wherein the non-white colored segments include gray bands of varying intensities that is used to confirm that a detector linearity of the optical inspection machine is correct.

28. A method as defined in claim 21, wherein the method is repeated on a predetermined basis and the results provided by the optical inspection machine recorded.

29. An apparatus as defined in claim 8, wherein the housing comprises:

a top piece defining the window for allowing the insert to be illuminated by the readhead of the optical inspection machine; and

a bottom piece secured to the top piece with the insert secured between the top and the bottom pieces, wherein the bottom piece includes an end wall and side walls extending toward the top piece and that correctly position the insert with respect to the window of the top piece.

30. An apparatus as defined in claim 29, wherein the top piece of the housing includes on a top surface thereof offset parallel rows of bosses extending from opposite ends of the window.